

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-005641**Date Inspected:** 27-Feb-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Shen Fu You**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

On this day Caltrans OSM Quality Assurance (QA) Inspector Erik Prue was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island in Shanghai, China. QA Inspector observed and/or found the following:

OBG Bay 14: QA Inspector performed ultrasonic verification testing of OBG deck panel DP570-001-254 Complete Joint Penetration (CJP) butt joint. The Ultrasonic Testing (UT) was performed to verify that 10% of the weld meets the requirements of the contract documents and AWS D1.5-2002 after ZPMC QC UT acceptable inspection. The weld and base metal were scanned utilizing a Krautkramer Branson USN 58L #01WHB1. QA Inspector performed a base metal lamination check using a 25mm diameter 2.25 MHz transducer and a shear wave scan using a 20mm x 15mm 2.25 MHz transducer on a 70 degree angle wedge from face A. For details please see the ultrasonic testing report TL-6027 dated 27 Feb, 2009. QA Inspector found the weld to have a class "A" indication (Db rating of 4) per AWS D1.5 2002 Table 6.3. QA Inspector informed ZPMC QC UT Inspector Li Li Ming of the indication. QC UT Inspector Li Li Ming reinspected weld and found the indication to have a rating of 9 Db, class "B" rating in accordance with Table 6.3 and accepted the indication. QC UT Inspector informed QA Inspector that he will have ZPMC repair the weld, QC UT reinspect, and submit a notification of inspection when complete.

Bay 14 segment 2AE: QA Inspector randomly observed ZPMC qualified welders ID #066041, 050988, and 067601 welding diaphragm plates to U-ribs for deck panels DP603-001, DP588-001, and DP612-001. Welders were observed welding in the 3G (vertical) position utilizing the Flux Core Arc Welding (FCAW) process. QA Inspector observed ZPMC QC Inspector Wu Bin verifying welding parameters and pre-heat were in accordance

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with the Welding Procedure Specification (WPS). QA Inspector with QC Inspector observed parameters taken as follows: preheat temperature to be at 35°C and measure the welding parameters to be 219 amps, 25 volts, a travel speed of 113 mm/min. Welding parameters verified by QA Inspector appear to be in general compliance with the approved WPS-B-T-2233-TC-U4b-F.

Bay 2 segment 1AE and 1AW: QA Inspector observed rib stiffeners RS95K and RS96K (lift 1AE) and rib stiffeners RS95C and RS96C (lift 1AW) complete joint penetration (CJP) butt splices tack welded to side plates without an approved drawing for the CJP welds. The rib stiffener CJP welds were added when the rib stiffeners were cut and removed from side plates to facilitate access for CJP welds on side plates. AWS D1.5 (02) paragraph 6.5.1 states "The Inspector shall make certain that the size, length, and location of all welds conform to the requirements of this code and to the detail drawings and that no unspecified welds have been added without approval. Representative picture of RS96C to side plate 403A shown below. Other rib stiffeners (3) are in the same condition. Please see incident report dated 25 February, 2009 for further details.

Unless otherwise noted, all work observed on this date appears to be in general compliance with the applicable contract documents.

Summary of Conversations:

Conversations noted in items above.



Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, 15000422372, who represents the Office of Structural Materials for your project.

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| Inspected By: | Prue,Erik | Quality Assurance Inspector |
| Reviewed By: | Carreon,Albert | QA Reviewer |
